What is claimed is:

1. A broadcast system, comprising:

an LED light source for lighting;

a power line that supplies electric power to the LED light source;

a data modulator that modulates and multiplexes a plurality of pieces of data, superimposes the resulting plurality of pieces of data on an electric power waveform into a plurality of modulated pieces of data, and transmits the plurality of modulated pieces of data via the power line; and

a filter that selectively separates one or more pieces of data out of the plurality of modulated pieces of data on the power line and controls light intensity or blinking of the LED light source; wherein data is transmitted based on changes in light intensity or blinking of the LED light source.

2. The broadcast system according to Claim 1, wherein the filter has a selector for selecting data.

3. The broadcast system according to Claim 2, wherein the selector selects data to be transmitted based on changes in light intensity or blinking of the LED light source in conformity with instruction data on the power line.

4. The broadcast system according to Claim 1, wherein the filter controls light intensity or blinking of the LED light source while a plurality of pieces of data is multiplexed, and selects data by a receiver unit that receives light from the LED light source.

5. The broadcast system according to Claim 1, wherein the data modulator frequency division multiplexes a plurality of pieces of data, and the filter selects one of a plurality of band pass filters with different frequency bandwidths and separates data.

6. The broadcast system according to Claim 1, wherein the data modulator time division multiplexes a plurality of pieces of data, adds tag data to the resulting divided data, and transmits the resulting data; and the filter identifies data based on the tag data, and selectively separates data.

7. An electric bulb, which receives supplied electric power and emits light for lighting, comprising:

an LED light source for lighting; and

a filter that selectively separates one or more of a plurality of pieces of modulated data, which is superimposed on supplied electric power, and controls light intensity or blinking of the LED light source.

8. The electric bulb according to Claim 7, wherein: the electric power is AC power; the electric bulb comprises an AC-DC converter that converts AC power to DC power; and a

data component separated by the filter is superimposed on the DC power, which is provided by the AC-DC converter, and the LED light source is driven by the resulting superimposed DC power.

9. An illuminative light communication device, comprising:

a lighting unit that emits light for lighting;

a modulator that controls blinking or light intensity of the lighting unit in accordance with data, thereby modulating the emitted light; and

a light receiving unit that receives modulated light transmitted from the outside;

wherein data is transmitted via the light emitted by the lighting unit, and the data is received by the light receiving unit.

10. The illuminative light communication device according to Claim 9, wherein the lighting unit is made up of one or a plurality of LEDs.

11. The illuminative light communication device according to either Claim 9 or Claim 10, wherein the light receiving unit receives infrared light as the modulated light.

12. The illuminative light communication device according to either Claim 9 or Claim 10, wherein the light receiving unit receives visible light as the modulated light.

13. The illuminative light communication device according to any one of Claim 9 to Claim 12, wherein the light receiving unit is a two-dimensional sensor.

14. An illuminative light communication device, comprising:

a light receiving unit that receives illuminative light modulated in accordance with data, thereby capturing the data; and

a light emitting unit that emits light modulated in accordance with data to be transmitted.

15. The illuminative light communication device according to either Claim 9 or Claim 10, wherein the light emitting unit emits infrared light.

16. The illuminative light communication device according to either Claim 9 or Claim 10, wherein the light emitting unit emits visible light.

17. The illuminative light communication device according to any one of Claim 14 to Claim 16, wherein the light emitting unit comprises a tracking unit that guides the emitted light to an external light receiving unit.

18. An illuminative light communication device, comprising:

a light receiving unit that receives illuminative light modulated in accordance with data, thereby capturing the data; and

a reflecting and modulating unit that reflects the illuminative light and transmits reflected light modulated in accordance with data to be transmitted.

19. The illuminative light communication device according to Claim 18, wherein the reflecting and modulating unit is structured including one or a plurality of corner cube reflectors, and transmits reflected light to a light source of the illuminative light.

20. The illuminative light communication device according to either Claim 18 or Claim 19, wherein the reflecting and modulating unit uses an optical shutter to carry out modulation.

21. The illuminative light communication device according to Claim 19, wherein the reflecting and modulating unit modulates through deforming a reflecting surface of the corner cube reflector.

22. The illuminative light communication device according to Claim 18, wherein the reflecting and modulating unit comprises:

a corner cube modulation array comprising a plurality of corner cube reflectors;

a lens that is deployed to form an image on the corner cube modulation array; and

a modulator that controls every one or every group of the corner cube reflectors in the corner cube modulation array to modulate reflected light.

23. The illuminative light communication device according to Claim 22, wherein the modulator is an optical shutter.

24. The illuminative light communication device according to Claim 22, wherein the modulator modulates through deforming a reflecting surface of the corner cube reflector.

25. An illuminative light communication device, comprising:

a lighting unit that emits light for lighting;

a modulator that controls blinking or light intensity of the lighting unit in accordance with data, thereby modulating the emitted light;

a communicating unit that transmits the data through optical communication other than illuminative light communication; and

a switching unit that changes over respective operations of the modulator and the communicating unit based on whether the lighting unit is on or off; wherein the switching unit changes over such that the communicating unit can operate while the lighting unit is off.

26. The illuminative light communication device according to Claim 25, wherein the communicating unit transmits data through infrared light communication.

27. The illuminative light communication device according to Claim 26, wherein: the lighting unit comprises a plurality of LED devices; the LED devices comprise an infrared light emitting device that can selectively emit infrared light; and the infrared light emitting device is used as the communicating unit.

28. An illuminative light communication device, comprising:

a lighting unit that emits light for lighting; and

a modulator that controls blinking or light intensity of the lighting unit in accordance with data, thereby modulating the emitted light; wherein in response to an on-switching instruction, the modulator modulate in accordance with the data while supplying sufficient electric power for lighting to the lighting unit, while in response to an off- switching instruction, the modulator modulate in accordance with the data to allow the lighting unit to blink a number of times necessary for communication.

29. A lighting device for emitting illuminative light, comprising:

an illuminative light emitting device that emits white light for lighting; and

an infrared light emitting device that emits infrared light for infrared data communication.

30. The lighting device according to Claim 29, wherein the illuminative light emitting device is controlled for modulation to carry out illuminative light communication independently of the infrared light emitting device.

31. The lighting device according to either Claim 29 or Claim 30, wherein the illuminative light emitting device comprises a red, a blue, and a green light emitting device, and the infrared light emitting device is arranged along with each light emitting device.

32. The lighting device according to either Claim 29 or Claim 30, wherein the illuminative light emitting device comprises a blue or an ultraviolet light emitting device and fluorescer that is provided surrounding the light emitting device.

33. An illuminative light communication system for transmitting data using illuminative light, comprising:

a light source that emits light for lighting;

a light source control unit that controls blinking or light intensity of the light source in accordance with data to be transmitted and controls the light source to emit modulated light;

an optical fiber that transmits the modulated light emitted from the light source; and

a light scatterer that is provided at an end of the optical fiber, scatters the modulated light transmitted through the optical fiber, and emits the scattered, modulated light; wherein the scattered light emitted from the light scatterer is used for lighting and transmission of the data.

34. The illuminative light communication system according to Claim 33, wherein the optical fiber and the light scatterer are made of a plastic material.

35. The illuminative light communication system according to Claim 33, wherein the optical fiber and the light scatterer are integrated into one.

36. The illuminative light communication system according to any one of Claim 33 to Claim 35, wherein the light source emits an ultraviolet ray or a blue light; and fluorescer is mixed in the light scatterer.

37. The illuminative light communication system according to any one of Claim 33 to Claim 35, wherein a plurality of light sources is provided and emits different color lights, respectively.

38. The illuminative light communication system according to Claim 37, wherein the light source control unit controls blinking or light intensity of at least one of the light sources.

39. An illuminative light communication system, comprising:

a plurality of lighting units that emits light for lighting; and

an optical communication unit that optically transmits data through the air to the lighting units; wherein the lighting units receive light from the optical communication unit, thereby capturing data, and modulate emitted light in accordance with the data.

40. An illuminative light communication system, comprising:

a plurality of lighting units that emits light for lighting; and

an optical communication unit that optically transmits data through the air to one or more of the lighting units; wherein the one or more of the lighting units receive light from the optical communication unit, thereby capturing data, and optically transmit the data through the air to another lighting unit; and each lighting unit modulates emitted light in accordance with the data received from the optical communication unit or another lighting unit and transmits the data via the modulated, emitted light.

41. The illuminative light communication system according to either Claim 39 or Claim 40, wherein the plurality of lighting units is an indoor illumination lamp.

42. The illuminative light communication system according to Claim 40, wherein the plurality of lighting units is a street lamp.

43. The illuminative light communication system according to any one of Claim 39 to Claim 42, wherein the plurality of lighting units allows optical bi-directional communication through the air with the optical communication unit or another lighting unit.

44. The illuminative light communication system according to Claim 43, wherein the plurality of lighting units comprises a light receiving unit that receives light modulated in accordance with data emitted from a terminal device, which receives emitted light and thereby receives data, and allows optical bi-directional communication between the

terminal device and the plurality of lighting units.

45. The illuminative light communication system according to any one of Claim 39 to Claim 44, wherein the plurality of lighting units uses a semiconductor light emitting device as an illuminative light source.

46. A lighting device, comprising:

one or a plurality of illuminative light emitting units that emits light for lighting;

an optical transmitting and receiving unit for optically communicating through the air with a light emitting unit provided in a device; and

a control unit that controls the illuminative light emitting unit in accordance with data received by the light transmitting and receiving unit, so as to modulate light emitted from the illuminative light emitting unit in accordance with the data, thereby transmitting the data.

47. The lighting device according to Claim 46, wherein the optical transmitting and receiving unit is deployed in a plurality of positions in different communication directions; and the control unit controls so that data received by a certain light transmitting and receiving unit can be optically transmitted through the air from another light transmitting and receiving unit to the device.

48. The lighting device according to either Claim 46 or Claim 47, wherein the illuminative light emitting unit lights indoors.

49. The lighting device according to either Claim 46 or Claim 47, wherein the illuminative light emitting unit lights the road.

50. The lighting device according to any one of Claim 46 to Claim 49, wherein the optical transmitting and receiving unit allows bi-directional optical communication through the air with the device.

51. The lighting device according to Claim 50, further comprising a light receiving unit that receives light modulated in accordance with data emitted from a terminal device, which receives light emitted from the light emitting unit, thereby receiving data; wherein bi-directional communication with the terminal device is carried out via light.

52. The lighting device according to any one of Claim 46 to Claim 51, wherein the illuminative light emitting unit comprises one or a plurality of semiconductor light emitting devices as an illuminative light source.

53. An illuminative light source, comprising:

one or a plurality of illuminative light emitting devices that emits light for lighting;

an optical transmitting and receiving unit for optically communicating through

the air with a light emitting unit provided in another lighting unit; and

a control unit that controls the illuminative light emitting device in accordance with data received by the optical transmitting and receiving unit, so as to modulate light emitted by the illuminative light emitting device in accordance with the data, thereby transmitting the data.

54. The illuminative light source according to Claim 53, wherein the optical transmitting and receiving unit is deployed in a plurality of positions in different communication directions; and the control unit controls so that data received by a certain light transmitting and receiving unit can be optically transmitted through the air from another light transmitting and receiving unit to the another device.

55. The illuminative light source according to either Claim 53 or Claim 54, wherein the optical transmitting and receiving unit is structured to be capable of changing an optical transmission and a reception direction.

56. The illuminative light source according to any one of Claim 53 to Claim 55, wherein the optical transmitting and receiving unit is deployed in plural; one is used, in the case of the plurality of illuminative light emitting devices being arranged, to allow optical communication through the air with an adjacent illuminative light source, while the other is used to allow optical communication through the air with another illuminative light source provided in another lighting unit.

57. The illuminative light source according to any one of Claim 53 to Claim 56, wherein the optical transmitting and receiving unit carries out bi-directional optical communication through the air with the another lighting unit.

58. The illuminative light source according to Claim 57, further comprising a light receiving unit that receives light modulated in accordance with data emitted from a terminal device, which receives light emitted from the light emitting unit, thereby receiving data; wherein bi-directional optical communication is carried out through the air with the terminal device.

59. The illuminative light source according to any one of Claim 53 to Claim 58, wherein the illuminative light emitting device is one or a plurality of semiconductor light emitting devices.

60. An electrical apparatus having a semiconductor light emitting device for display, comprising a control unit that controls blinking or light intensity of the semiconductor light emitting device in accordance with data; wherein data is transmitted using the semiconductor light emitting device for display.

61. The electrical apparatus according to Claim 60, wherein the semiconductor light

emitting device is an LED light source for indicating a device status.

62. The electrical apparatus according to Claim 60, wherein the semiconductor light emitting device is an LED light source for lighting a display unit.

63. The electrical apparatus according to Claim 60, wherein the semiconductor light emitting device is an LED light source for decoration.

64. The electrical apparatus according to any one of Claim 60 to Claim 63, further comprising a light receiving unit that receives light from the outside; wherein data transmitted through modulating the light is received.

65. The electrical apparatus according to any one of Claim 60 to Claim 63, further comprising an infrared light receiving unit.

66. A controller for instructing an electrical apparatus, comprising:

a light receiving unit that receives emitted light modulated in accordance with data transmitted from the electrical apparatus, thereby receiving the transmitted data; and

an infrared light communication unit for transmitting instruction data to the electrical apparatus.

67. A controller for instructing an electrical apparatus, comprising:

a semiconductor light emitting device; and

a control unit that controls blinking or light intensity of the semiconductor light emitting device in conformity with instruction data to be transmitted to the electrical apparatus.

68. The controller according to Claim 67, further comprising an optical system for collecting light emitted from the semiconductor light emitting device.

69. The controller according to either Claim 67 or Claim 68, further comprising a light receiving unit that receives light emitted from the electrical apparatus and modulated in accordance with transmitted data, thereby receiving the transmitted data.

70. The controller according to either Claim 66 or Claim 69, further comprising an optical system for collecting light into a light receiving unit; wherein the data transmitted from an external light emitting source can be selectively received.

71. An emergency lamp, comprising a battery and turning a light source on while in an emergency without electric power supplied from an external power source; wherein an LED is used as the light source.

72. The emergency lamp according to Claim 71, further comprising:

a storage unit that is stored with data to be transmitted while in an emergency; and

an optical modulator that controls electric power supplied to the LED in accordance with data stored in the storage unit, thereby controlling light intensity or blinking of the LED.

73. The emergency lamp according to Claim 72, further comprising a demodulator that separates and demodulates transmitted data superimposed on a voltage of an external power source while the emergency lamp is being driven by an external power source during a non-emergency time; wherein data captured by the modulator is stored in the storage unit.

74. A wireless emergency lamp data transmission system for transmitting data to a terminal unit using an emergency lamp, which has a light source turned on while in an emergency without electric power supplied from an external power source; wherein the emergency lamp comprises:

a battery;

an LED that is used as the light source;

a storage unit that is stored with data to be transmitted while in an emergency; and

an optical modulator that controls electric power supplied to the LED in accordance with data stored in the storage unit, thereby controlling light intensity or blinking of the LED; wherein the terminal unit comprises:

a light receiving unit that receives light emitted from the LED in the emergency lamp and converts it to an electric signal; and

a demodulator that demodulates the electric signal output from the light receiving unit, thereby capturing the data.

75. A road lighting control system for lighting a road, comprising:

a plurality of lighting units that is provided on the road for lighting the road; and

an lighting control unit that is capable of controlling each lighting unit or each lighting unit group.

76. The road lighting control system according to Claim 75, wherein the lighting control unit controls blinking or light intensity of each lighting unit group.

77. The road lighting control system according to either Claim 75 or Claim 76, wherein

the lighting units can control colors of emitted light; and

the lighting control unit controls color of light emitted by each lighting unit group.

78. The road lighting control system according to any one of Claim 75 to Claim 77, wherein the lighting control unit notifies of occurrence of an abnormality on the road by controlling the lighting unit group to operate.

79. The road lighting control system according to Claim 78, further comprising an abnormality detecting unit that is provided on the road for detecting occurrence of an abnormality on the road automatically or through a user's manual operation; wherein

the lighting control unit controls the lighting unit group to operate so as to notify of occurrence of an abnormality when the abnormality is detected by the abnormality detecting unit.

80. The road lighting control system according to Claim 79, wherein the lighting control unit identifies a lighting unit group to be controlled to operate so as to notify of occurrence of an abnormality when the abnormality is detected by the abnormality detecting unit.

81. The road lighting control system according to any one of Claim 75 to Claim 80, wherein

the plurality of lighting units comprises semiconductor light emitting devices and controls the respective semiconductor light emitting devices to emit light modulated in accordance with data received from the lighting control unit; and

the lighting control unit transmits data to be transmitted to the lighting unit group, which then transmits the data via light.

82. The road lighting control system according to Claim 81, wherein the plurality of lighting units comprises a plurality of semiconductor light emitting devices on a bent substrate.

83. The road lighting control system according to Claim 82, wherein the plurality of lighting units has the end of the bent substrate with narrowed directivity for lighting a distant region.

84. A road lighting control method for lighting a road using a plurality of lighting units, wherein one or more of the lighting units are grouped as a lighting unit group, and lighting control of each lighting unit group is carried out.

85. The road lighting control method according to Claim 84, wherein the lighting control of each lighting unit group is to control blinking of the lighting units or change light intensity of the lighting units.

86. The road lighting control method according to Claim 84 or Claim 85, wherein

the lighting units can control color of emitted light; and

lighting control of each lighting unit group is to control color of emitted light of the lighting units.

87. The road lighting control method according to any one of Claim 84 to Claim 86, wherein occurrence of an abnormality on the road is notified by carrying out lighting control when the abnormality occurs on the road.

88. The road lighting control method according to Claim 87, wherein

detecting occurrence of an abnormality on the road automatically or through a user's manual operation when the abnormality occurs is carried out, and

lighting control is carried out so as to notify of the occurrence of the abnormality.

89. The road lighting control method according to Claim 88, wherein a lighting unit group to be controlled for lighting so as to notify of occurrence of an abnormality when the abnormality is detected is identified.

90. The road lighting control method according to any one of Claim 84 to Claim 88, wherein the plurality of lighting units comprises semiconductor light emitting devices, and provides data to be transmitted to the lighting units so as to control the semiconductor light emitting devices to emit modulated light, thereby transmitting the data via the modulated light.

91. The road lighting control method according to Claim 90, wherein the plurality of lighting units comprises a plurality of semiconductor light emitting devices on a bent substrate.

92. The road lighting control method according to Claim 91, wherein the plurality of lighting units has the end of the bent substrate with narrowed directivity for lighting a distant region.

93. A mobile optical communication system for transmitting data to a mobile unit, wherein

a leaky optical fiber that transmits an optical signal modulated in accordance with data with leakage thereof out of the surface and is deployed along a movement route of the mobile unit; wherein the mobile unit comprises:

a light receiving unit that is deployed almost facing the leaky optical fiber and receives an optical signal leaked out of the leaky optical fiber; and

a demodulator that demodulates an optical signal received by the light receiving unit, thereby capturing data; wherein the data is optically transmitted to the mobile unit through the leaky optical fiber.

94. The mobile optical communication system according to Claim 93, wherein the leaky optical fiber is deployed along tracks for the mobile unit.

95. A mobile optical communication system for transmitting data from a mobile unit, wherein the mobile unit comprises

a modulator that modulates data,

a light emitting unit that emits modulated data as an optical signal, and

a leaky optical fiber that transmits an optical signal emitted from the light emitting unit with leakage thereof out of the surface;

light receiving units are deployed along a movement route of the mobile unit at

certain intervals almost facing the leaky optical fiber in the mobile unit, receives an optical signal leaked out of the leaky optical fiber and converts it to an electric signal; and

data is optically transmitted from the mobile unit via the leaky optical fiber in the mobile unit.

96. The mobile optical communication system according to Claim 95, wherein

the leaky optical fiber is deployed under the floor of the mobile unit; and

the light receiving units are deployed along tracks for the mobile unit.

97. A mobile optical communication method for transmitting data to a mobile unit, wherein

a leaky optical fiber that leaks an optical signal out of the surface thereof is deployed along a movement route of the mobile unit;

a light receiving unit that receives an optical signal leaked out of the leaky optical fiber is deployed in the mobile unit to almost face the leaky optical fiber;

a demodulator that demodulates an optical signal received by the light receiving unit, thereby capturing data, is provided; and

data is optically transmitted to the mobile unit via the leaky optical fiber by:

transmitting an optical signal modulated in accordance with data through the leaky optical fiber with leakage of the optical signal out of the surface of the leaky optical fiber;

receiving the optical signal leaked out of the surface of the leaky optical fiber by the light receiving unit in the mobile unit; and

demodulating the received optical signal by the demodulator, thereby capturing data.

98. The mobile optical communication method according to Claim 97, wherein the leaky optical fiber is deployed along tracks for the mobile unit.

99. A mobile optical communication method for transmitting data from a mobile unit, wherein the mobile unit comprises

a modulator that modulates data,

a light emitting unit that emits modulated data as an optical signal,

a leaky optical fiber that transmits an optical signal emitted from the light emitting unit with leakage of an optical signal out of the surface thereof, and

light receiving units that are deployed almost facing the leaky optical fiber along a movement route of the mobile unit at certain intervals, receive an optical signal leaked out of the leaky optical fiber in the mobile unit, and converts it to an electric signal;

data is transmitted from the mobile unit by:

demodulating data by the demodulator,

emitting an optical signal to the leaky optical fiber from the light emitting unit in the mobile unit, and

receiving the optical signal leaked out of the surface of the leaky optical fiber and converting it to an electric signal by the light receiving unit.

100. The mobile optical communication method according to Claim 99, wherein

the leaky optical fiber is deployed under the floor of the mobile unit; and

the light receiving units are deployed along tracks for the mobile unit.